

GP. 1643

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Charles T. Esmon and Jun Xu

Serial No.: 09/139,425



Art Unit: 1643

Filed: August 25, 1998

Examiner: Not Yet Assigned

For: *TARGETING OF MOLECULES TO LARGE VESSEL  
ENDOTHELIUM USING EPCR*

Assistant Commissioner for Patents  
Washington, D.C. 20231

#2  
A.Q.J  
3/22/99  
PROCESSED  
TECH CENTER 1500/2000  
9 MAR 15 AM 8:57  
GROUP 180

**TRANSMITTAL OF  
VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
(37 C.F.R. §§ 1.9(f) and 1.27(d) – NONPROFIT ORGANIZATION)  
AND CERTIFICATE UNDER 37 C.F.R. § 3.73(b)**

Sir:

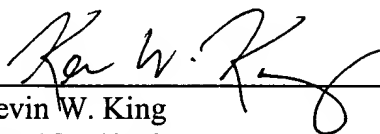
The following items are enclosed for filing in the above-identified application:

1. Verified Statement (Declaration) Claiming Small Entity Status (37 C.F.R. §§ 1.9(f) and 1.27(d) – Nonprofit Organization) by Oklahoma Medical Research Foundation;
2. Certificate Under 37 C.F.R. § 3.73(b) by Oklahoma Medical Research Foundation;
3. A copy of the Assignment from Charles T. Esmon to Howard Hughes Medical Institute;
4. A copy of the Assignment from Howard Hughes Medical Institute to Oklahoma Medical Research Foundation, with attached Appointment of Investigator As Agent, appointing Charles T. Esmon, an investigator employed by Howard Hughes Medical Institute, as agent for Howard Hughes Medical Institute; and

U.S.S.N.: 09/139,425  
Filed: August 25, 1998  
TRANSMITTAL OF VERIFIED STATEMENT (DECLARATION) CLAIMING  
SMALL ENTITY STATUS (37 C.F.R. §§ 1.9(f) and 1.27(d) - NONPROFIT  
ORGANIZATION) AND CERTIFICATE UNDER 37 C.F.R. § 3.73(b)

5. A copy of the Assignment from Jun Xu to Oklahoma Medical Research Foundation.

Respectfully submitted,

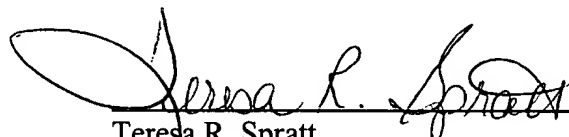
  
\_\_\_\_\_  
Kevin W. King  
Reg. No. 42,737

Date: March 2, 1999

ARNALL GOLDEN & GREGORY, LLP  
2800 One Atlantic Center  
1201 West Peachtree Street  
Atlanta, Georgia 30309-3450  
(404) 873-8596  
(404) 873-8597 (fax)

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

I hereby certify that this Transmittal of Verified Statement (Declaration) Claiming Small Entity Status (37 C.F.R. §§ 1.9(f) and 1.27(d) – Nonprofit Organization) and Certificate Under 37 C.F.R. § 3.73(b), along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231.

  
\_\_\_\_\_  
Teresa R. Spratt

Date: March 2, 1999

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Charles T. Esmon and Jun Xu

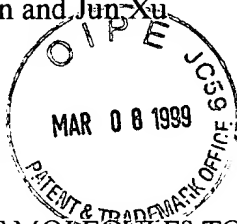
Serial No.: 09/139,425

Art Unit: 1643

Filed: August 25, 1998

Examiner: not yet assigned

For: TARGETING OF MOLECULES TO LARGE VESSEL ENDOTHELIUM  
USING EPCR



TECH CENTER 2060/2500  
99 MAR 15 AM 8:51  
GROUP 1639

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
(37 C.F.R. §§ 1.9(f) and 1.27(d) - NONPROFIT ORGANIZATION)**

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:

NAME OF ORGANIZATION: Oklahoma Medical Research Foundation

ADDRESS OF ORGANIZATION: 825 N. E. 13th Street  
Oklahoma City, OK 73104

**TYPE OF ORGANIZATION**

- ☐ UNIVERSITY OR OTHER INSTITUTION OF HIGHER EDUCATION
- ☐ TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE  
(26 U.S.C. §§ 501(a) and 501(c)(3))
- ☒ NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF  
STATE OF THE UNITED STATES OF AMERICA
- ☐ WOULD QUALIFY AS TAX EXEMPT UNDER INTERNAL REVENUE  
SERVICE CODE (26 U.S.C. §§ 501(a) and 501(c)(3) IF LOCATED IN THE  
UNITED STATES OF AMERICA
- ☐ WOULD QUALIFY AS NONPROFIT SCIENTIFIC OR EDUCATIONAL  
UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA IF  
LOCATED IN THE UNITED STATES OF AMERICA

I hereby declare that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 C.F.R. § 1.9(e) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code with regard to the invention entitled "TARGETING OF MOLECULES TO LARGE VESSEL ENDOTHELIUM USING EPCR" by inventors Charles T. Esmon and Jun Xu described in

U.S.S.N.: 09/139,425  
Filed: August 25, 1998  
VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
(37 C.F.R. §§ 1.9(f) AND 1.27(d) – NONPROFIT ORGANIZATION)

☐ the specification filed herewith.

☒ application serial no. 09/139,425, filed August 25, 1998.

☐ patent no. \_\_\_\_\_ issued \_\_\_\_\_.

I hereby declare that rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above-identified invention.

If the rights held by the nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 C.F.R. § 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☒ NONPROFIT ORG.

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME: 2/19/99

TITLE: Director, BioTechnology Transfer

SIGNATURE: William C. Lee

DATE: 2/19/99

CERTIFICATE UNDER 37 C.F.R. § 3.73(b)



Applicants: Charles T. Esmon and Jun Xu

Application No. : 09/139,425 Filed: August 25, 1998

For: Targeting of Molecules to Large Vessel Endothelium Using EPCR

Oklahoma Medical Research Foundation, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

certifies that it is an assignee of a joint right, title and interest in the patent application identified above by virtue of:

[X] A chain of title from the inventors of the patent application identified above, to the current assignee as shown below:

1. From: Charles T. Esmon To: Howard Hughes Medical Institute  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_,  
Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: Jun Xu To: Oklahoma Medical Research Foundation  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_,  
Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: Howard Hughes Medical Institute To: Oklahoma Medical Research Foundation  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_,  
Frame \_\_\_\_\_, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplement sheet.

[X] Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date : 2/19/99

Name : William C. Aven

Title : Director, BioTechnology Transfer

Signature : William C. Aven

## ASSIGNMENT

Assignment made 9/21, 1998 by Charles T. Esmon, Ph.D. ("Inventor") to the Howard Hughes Medical Institute, a Delaware corporation (the "Institute").

## Recitals

WHEREAS, Inventor is an employee of the Institute and, as a condition of his employment, has signed the Agreement appended to the Institute's Policy on Intellectual Property (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, Inventor has agreed (a) to assign to the Institute all rights he may acquire in any invention, discovery, improvement, or other intellectual property, whether or not patentable or copyrightable, developed directly or indirectly as a result of a program of research financed by Institute funds or by funds under the control of the Institute (each a "Subject Property") and (b) to execute any agreements that may be desired by the Institute in connection with such assignment;

WHEREAS, Inventor has, alone or with others, invented "Targeting of Molecules to Large Vessel Endothelium Using EPCR" (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, Inventor seeks to make a formal assignment of his interest in the Invention to the Institute, and the Institute desires the execution of a formal assignment of all of Inventor's right, title, and interest in the Invention.

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, Inventor agrees as follows:

1. Assignment. Inventor hereby assigns to the Institute his entire right, title, and interest in the Invention; any United States patent applications and all corresponding foreign patent applications which are directed to the Invention (including, without limitation, the patent application entitled "Targeting of Molecules to Large Vessel Endothelium Using EPCR" filed in the United States Patent and Trademark Office on August 25, 1998), and any and all patents issued therefrom; all United States or foreign division and continuation applications based on any of the foregoing, and any and all patents issued therefrom; and all claims which are directed to the Invention and which may be contained in continuation-in-part applications or in patents which issue therefrom.

2. Cooperation. Inventor agrees to execute upon request such further assignments, documents, and other instruments as may be necessary or desirable to assign Inventor's entire right, title and interest in the Invention to the Institute and to assist the Institute (or others at the direction of the Institute) in applying for, obtaining, and enforcing patents, copyrights, or other rights in the United States and in any foreign country with respect to the Invention.

3. Parties. The terms and provisions of this Assignment shall inure to the benefit of the Institute and its successors and assigns and shall be binding on Inventor and his heirs, personal representatives and assigns.

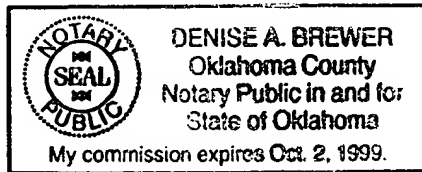
4. Warranty. Inventor warrants and represents that he has not entered into any assignment, contract, or understanding in conflict herewith, and that there is no other person or entity whose consent is required in order for the Inventor to make the assignment contained herein.

Inventor: *Charles T. Esmon*  
Charles T. Esmon, Ph.D.

State of Oklahoma  
County of OKLAHOMA

Then personally appeared before me the above-named Charles T. Esmon and acknowledged that he executed the foregoing instrument as his free act and deed this 21<sup>st</sup> day of SEPTEMBER, 1998.

(SEAL)



*Denise A. Brewer* Notary Public

DENISE A. BREWER (print name)

My Commission expires OCT 2 / 99

SA6600  
99-01409

## ASSIGNMENT

I, Charles T. Esmon, of 5800 North Stonewall, Oklahoma City, Oklahoma 73111, on behalf of and as agent for the Howard Hughes Medical Institute, 4000 Jones Bridge Road, Chevy Chase, Maryland 20815, in consideration of Ten Dollars and other valuable consideration paid to me by Oklahoma Medical Research Foundation, a corporation of Oklahoma having its principal place of business at 825 N.E. 13th Street, Oklahoma City, Oklahoma 73104, the receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto said Oklahoma Medical Research Foundation, its successors and assigns, the entire interest for the United States of America and its territories and all foreign countries and jurisdictions including all rights of priority under the International Convention for the Protection of Industrial Property in a certain invention or improvement in "Targeting of Molecules to Large Vessel Endothelium Using EPCR" described in U. S. Serial No. 09/139,425 filed in the United States Patent and Trademark Office on August 25, 1998, by Charles T. Esmon and Jun Xu, and in all Letters Patent of the United States of America and its territories and all foreign countries and jurisdictions which may or shall be granted on said invention, or any parts thereof, or on said application, or any divisional, continuation, continuation-in-part, renewals, reissue or other applications based in whole or in part thereon. And I agree, for myself and my executor and administrator, with said corporation and its successors and assigns but at its or their expense or charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and in all other countries to said corporation, with specifications and claims in such form as shall be approved by the counsel of said corporation and to vest and confirm in said corporation, its successors and assigns, the legal title to all such patents.



*"Targeting of Molecules to Large Vessel Endothelium Using EPCR"*

By: Charles T. Esmon and Jun Xu

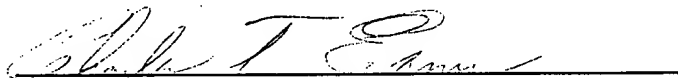
U.S.S.N.: 09/139,425

Filed: August 25, 1998

ASSIGNMENT

And I do hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said corporation, its successors and assigns.


WITNESS my hand and seal this 12<sup>th</sup> day of February, 1999.



Charles T. Esmon

State of Oklahoma )  
County of OKLAHOMA )<sup>ss.</sup>

Then personally appeared the above named Charles T. Esmon and acknowledged the foregoing instrument to be his free act and deed, before me, this 12<sup>th</sup> day of February, 1999.



Notary Public

My Commission expires: October 2, 1999

APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute (the "Institute") of Dr. Charles Esmon, an investigator employed by the Institute, as its agent for the purpose of assigning certain rights to the Oklahoma Medical Research Foundation (the "Foundation").

WHEREAS, the Institute and the Foundation collaborate in the active conduct of medical research pursuant to a Collaboration Agreement between them dated as of July 1, 1988 (the "Collaboration Agreement");

WHEREAS, pursuant to the Collaboration Agreement, the Institute has agreed to assign to the Foundation the Institute's rights with respect to inventions, discoveries, improvements, and other intellectual property, whether patentable or copyrightable (each a "Subject Property"), conceived or reduced to practice in the course of the research program conducted under the Collaboration Agreement by employees of the Institute;

WHEREAS, research conducted pursuant to the Collaboration Agreement by Dr. Esmon while employed by the Institute at the Foundation has resulted in the invention of a certain Subject Property entitled "Targeting of Molecules to Large Vessel Endothelium Using EPCR," which is the subject of a patent application entitled "Targeting of Molecules to Large Vessel Endothelium Using EPCR," filed in the U.S. Patent and Trademark Office on August 25, 1998 (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, the Institute wishes Dr. Esmon to act as its agent for the purpose of assigning to the Foundation the rights the Institute has in the Invention by reason of the research program conducted at the Foundation,

NOW, THEREFORE, the Institute hereby appoints Dr. Esmon as its agent for the purpose of assigning the rights the Institute has in the Invention by reason of the research program conducted at the Foundation to the Foundation in accordance with and subject to the conditions of the Collaboration Agreement.

Executed September 28, 1998

HOWARD HUGHES MEDICAL INSTITUTE

By: W. Maxwell Cowan

W. Maxwell Cowan, M.D., Ph.D.

Vice President and Chief Scientific Officer

ATTESTED:

Joan S. Leonard

Joan S. Leonard, Esq.

Vice President and General Counsel and Secretary

## ASSIGNMENT

Jun Xu, of 3630 North Villa, No. 4, Oklahoma City, Oklahoma 73112, in consideration of Ten Dollars and other valuable consideration paid to me by Oklahoma Medical Research Foundation, a corporation of Oklahoma having its principal place of business at 825 N.E. 13th Street, Oklahoma City, Oklahoma 73104, the receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto said Oklahoma Medical Research Foundation, its successors and assigns, the entire interest for the United States of America and its territories and all foreign countries and jurisdictions including all rights of priority under the International Convention for the Protection of Industrial Property in a certain invention or improvement in "TARGETING OF MOLECULES TO LARGE VESSEL ENDOTHELIUM USING EPCR" described in U. S. Serial No. 09/139,425 filed in the United States Patent and Trademark Office on August 25, 1998, by Charles T. Esmon and Jun Xu, and in all Letters Patent of the United States of America and its territories and all foreign countries and jurisdictions which may or shall be granted on said invention, or any parts thereof, or on said application, or any divisional, continuation, continuation-in-part, renewals, reissue or other applications based in whole or in part thereon. And I agree, for myself and my executors and administrators, with said corporation and its successors and assigns but at its or their expense or charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and in all other countries to said corporation, with specifications and claims in such form as shall be approved by the counsel of said corporation and to vest and confirm in said corporation, its successors and assigns, the legal title to all such patents.

And I do hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said corporation, its successors and assigns.

"Targeting of Molecules to Large Vessel

Endothelium Using EPCR"

By: Charles T. Esmon, et al.

Filed: August 25, 1998

ASSIGNMENT

WITNESS my hand and seal this 24 day of November, 1998.

Jun Xu

*Jun Xu*  
11-24-98

State of Oklahoma

)

County of Oklahoma

)ss.

Then personally appeared the above named Jun Xu and acknowledged the foregoing instrument to be his free act and deed, before me, this 24 day of November, 1998.

*Marsha L. Lewis*  
Notary Public

My commission expires: 11-24-2001